

# **EXHIBIT 1**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF MISSISSIPPI  
SOUTHERN DIVISION**

MISSISSIPPI STATE CONFERENCE OF THE  
NATIONAL ASSOCIATION FOR THE  
ADVANCEMENT OF COLORED PEOPLE; DR.  
ANDREA WESLEY; DR. JOSEPH WESLEY; ROBERT  
EVANS; GARY FREDERICKS; PAMELA HAMNER;  
BARBARA FINN; OTHO BARNES; SHIRLINDA  
ROBERTSON; SANDRA SMITH; DEBORAH  
HULITT; RODESTA TUMBLIN; DR. KIA JONES;  
MARCELEAN ARRINGTON; VICTORIA  
ROBERTSON,

*Plaintiffs,*

vs.

STATE BOARD OF ELECTION COMMISSIONERS;  
TATE REEVES, *in his official capacity as Governor of  
Mississippi*; LYNN FITCH, *in her official capacity as Attorney  
General of Mississippi*; MICHAEL WATSON, *in his official  
capacity as Secretary of State of Mississippi*,

*Defendants,*

and

MISSISSIPPI REPUBLICAN EXECUTIVE  
COMMITTEE,

*Intervenor-Defendant.*

**CIVIL ACTION NO.**

**3:22-cv-734-DPJ-HSO-LHS**

**RESPONSIVE EXPERT REPORT OF DR. BYRON D'ANDRA OREY, Ph.D**

1. My name is Byron D'Andra Orey. My initial report for this case, dated August 28, 2023, was submitted previously (a Second Amended version was submitted on November 15, 2023). The attorneys for the plaintiff have asked me to provide a rebuttal report that responds to the October 16 Report of Dr. Peter Morrison and the October 23 Report of Dr. Thomas L. Brunell.
2. Dr. Morrison's analysis concerning voter turnout is solely based on data from the Current Population Survey (CPS) Voting Supplement. However, as emphasized in pages 20-21 of my initial report, the CPS lacks verification, leading to concerns about the reliability of its data due to the tendency for voters to overreport their voting behavior on unverified surveys. Overreporting is a significant concern in accurately determining voter turnout figures. Further complicating the issue is a body of literature that points to a heightened tendency of overreporting among Black voters in unverified surveys.<sup>1</sup> This known issue of differential overreporting by race makes it especially problematic for Dr. Morrison to rely solely on an unverified survey to estimate turnout by race in Mississippi.
3. Recent academic advancements, such as the work of Ansolabehere, Fraga and Schaffner (2022), specifically question the CPS's capability in providing accurate estimates of voter turnout by race.<sup>2</sup> This skepticism is rooted in the observed disparities in overreporting rates across racial lines. Specifically, the authors report that the CPS overestimates turnout among Blacks and Hispanics. In contrast to this recent work specifically focused on overreporting by race on the CPS, Morrison relies on outdated sources, such as the Berent and Krosnick (2011) study, which further weakens the credibility of his conclusions. This particular source is based on an analysis of American National Election Survey (ANES) data from 2008, and it fails to address the critical aspect of overreporting *by race* at all. Also importantly, Berent and Krosnick's methods, which did not differentiate between matched voters and matched nonvoters, were directly undermined by later scholarship which employed large-scale databases that were not available in 2011.<sup>3</sup>

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<sup>1</sup> This literature is discussed in detail in, for example, Jenkins, White, Hanmer, and Banks (2021). Vote Overreporting While Black: Identifying the Mechanism Behind Black Survey Respondents' Vote Overreporting, *American Politics Research*, <https://doi.org/10.1177/1532673X211022189>.

<sup>2</sup> Ansolabehere, Fraga, and Schaffner (2022). The Current Population Survey Voting and Registration Supplement Overstates Minority Turnout, *The Journal of Politics* <https://www.journals.uchicago.edu/doi/abs/10.1086/717260>.

<sup>3</sup> Enamorado and Imai (2019). Validating Self-Reported Turnout by Linking Public Opinion Surveys with Administrative Records, *Public Opinion Quarterly*, <https://imai.fas.harvard.edu/research/files/turnout.pdf>. The Enamorado and Imai paper directly responded to an updated version of Berent and Krosnick's paper which was published in *Public Opinion Quarterly* in 2016. In the academic world, Berent and Krosnick's failure to respond to Enamorado and Imai is considered a concession as to the validity of their critique.

4. These issues with overreporting on unverified surveys are an important reason why I based my assessment of turnout on multiple different data sources, including the Mississippi voter file, official election return data, and the Cooperative Election Study (CES)—a survey which unlike the CPS includes independent verification of respondents’ registration and voting behavior.
5. Dr. Brunell mentions, on page 1 of his report, that my analysis only examines the 2020 election data. The year 2020 election should not be considered atypical in terms of racial turnout differences. Dr. Brunell references various variables that may impact turnout in a given year, like the weather, but these are random factors that influence all voters, irrespective of race. Analyzing a single election like 2020 allows us to observe the behavior of voters from different racial backgrounds under the same general environmental and situational conditions.
6. Additionally, Dr. Brunell, having access to the CES data, had the opportunity to conduct analyses for other years, which would have allowed for a comparison with my estimate.
7. Dr. Brunell notes, on page 2 of his report, that the CES dataset for Mississippi in 2020 contains two “missing observations.” This omission occurred because the respondents in question identified themselves as non-citizens. As a result, I chose not to include them in the dataset, in line with the criterion that only eligible voters should be considered for this analysis.
8. Dr. Brunell comments, on page 2 of his report, on the various weighting schemes for the CES data. Both Dr. Brunell and I arrive at a similar turnout figure among eligible voters using the “commonweight” weighting scheme, with White Mississippians at 59.6% and Black Mississippians at 46.1% according to my calculation. The slight variation in our estimates arises because Dr. Brunell’s analysis includes the two respondents who self-identified as non-citizens.<sup>4</sup>
9. Dr. Brunell discusses purported confidence intervals for the CES dataset, as detailed between pages 2 and 4. However, there are several issues with his analysis. Firstly, his methodology for calculating confidence intervals is flawed. Dr. Brunell does not explicitly detail his method for deriving these intervals. Upon reviewing his analysis and code, it seems he employed the “svy” software package within the STATA program, typically used for estimating standard errors and confidence intervals. However, the code he used does not account for the clustered sampling and stratification techniques used in the CES survey. Without specifying the survey design, including clustered sampling and stratification, it is not possible for any statistical package to obtain accurate confidence intervals. The STATA website summarizes this problem as follows: “When some people analyze survey data, they

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<sup>4</sup> Table 16 in my initial report, and Brunell’s replication thereof, use the wrong variable. Table 16 has been corrected in my Second Amended Report. Using the correct variable (“vv\_turnout\_gvm” or “voted\_valid\_gen”) and the registered voter weighting scheme “vvweight,” the CES estimate for turnout among registered White voters 86.8%, and for registered Black voters is 72.5%.

say, 'I know I have to use my survey weights, but I will just ignore the stratification and clustering information.' If we follow this strategy, we will obtain the proper design-based point estimates, but *our standard errors, confidence intervals, and test statistics will usually be wrong.*"<sup>5</sup>

10. Taking Dr. Brunell's use of the "svy" package as valid, his conclusions regarding the voter turnout for Black and White citizens involve a visual examination of the plots for the confidence intervals he generates. The overlap of the edges of the bars between the two confidence intervals lead him to overstate that there is no statistically significant difference in turnout rates between Black and White voters. He says on page 3 of his report that because "the intervals for Whites and Blacks overlap" "[t]his means that, from a statistical standpoint, we cannot be confident that the rate of turnout among Blacks and Whites in Mississippi in 2020 was different." However, the literature is clear that a simple visual comparison of confidence intervals is not a valid hypothesis test. Research suggests that such a comparison to test the difference between two variables is overly conservative.<sup>6</sup>
11. Dr. Brunell's suggestion that overlapping confidence intervals imply statistical insignificance is not definitive. The most reliable method to ascertain statistical significance between variables is through a dedicated statistical analysis. Unlike Dr. Brunell, who did not perform an analysis to determine if there was a statistically significant difference between the two variables' coefficients, I have carried out an analysis using Ordinary Least Squares and a bivariate regression model to assess these differences.
12. Dr. Brunell did not conduct hypothesis tests to determine if the coefficient measuring the effect of race on estimated turnout was statistically significant. If he had conducted this hypothesis test using his data, he would have found that the race coefficient is statistically significant at the  $p < 0.05$  level. Below, I have structured the findings into two parts. This approach mirrors Dr. Brunell's method of handling data. The initial section of the analysis utilizes the full dataset, without the exclusion of the two data points identified as noncitizens (*i.e.*, the same set of respondents considered by Dr. Brunell). The regression model presented in Table 1, which includes the constant and beta coefficient for the independent variable, reveals that when converted into percentages, the turnout rates for the 2020 election were 59.6% for White voters and 45.2% for Black voters. The White turnout is the constant and

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<sup>5</sup> See <https://www.stata.com/manuals/svsvy.pdf>.

<sup>6</sup> Schenker N, Gentleman JF. On judging the significance of differences by examining the overlap between confidence intervals. *The Am Stat.* 2001;55:182–186. doi: 10.1198/000313001317097960; Payton ME, Greenstone MH, Schenker N. Overlapping confidence intervals or standard error intervals: what do they mean in terms of statistical significance? *J Insect Sci.* 2003;3:34. doi: 10.1093/jis/3.1.34. Epub 2003 Oct 30. PMID: 15841249; PMCID: PMC524673; Ryan GW, Leadbetter SD. On the misuse of confidence intervals for two means in testing for the significance of the difference between the means. *J Mod Appl Stat Methods.* 2002;1:473–478; Austin PC, Hux JE. A brief note on overlapping confidence intervals. *J Vasc Surg.* 2002;36:194–195. doi: 10.1067/mva.2002.125015.

the Black turnout is the difference between the constant and the beta coefficient estimates. This difference is statistically significant, with a p-value less than .05.

**Table 1. Linear Regression: Turnout With Non-Citizens**

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Black	-.144	.071	-2.05	.041	-.283	-.006	**
Constant	.596	.037	15.98	.001	.522	.669	***
R-squared		0.020	Number of obs			443	
F-test		4.185	Prob > F			0.041	

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

The second part of my analysis, detailed in Table 2, accounts for the data excluding the two non-citizen respondents. Here, when the coefficients are converted to percentages, the turnout rates depict approximately 59.6% for White voters and 46.1% for Black voters. The coefficient is statistically significant at the .058 level.<sup>7</sup> These results collectively highlight a notable difference in turnout between Black and White voters in the 2020 election, contrary to Dr. Brunell's assessment.

<sup>7</sup> By convention, thresholds for statistical significance include a p-value <0.10 or, more stringently and more commonly, a p-value <0.05. A p-value of 0.05 means that we can be 95 percent sure that the observed results are not due to random chance. Similarly, the p-value in table 2 is 0.058, very close to the arbitrary 0.05 threshold and well under the more lenient 0.10 threshold. This suggests that we can be 94 percent sure that the observed results are not due to random chance.

**Table 2. Linear Regression: Turnout Without Non-Citizens**

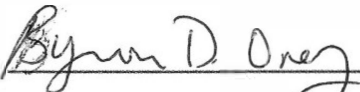
	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Black	-.135	.071	-1.90	.058	-.275	.005	*
Constant	.596	.037	15.98	.001	.522	.669	***
R-squared		0.018	Number of obs			441	
F-test		3.604	Prob > F			0.058	

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

13. It should also be noted that Dr. Brunell offers no critique of my ecological inference analysis, which also demonstrated a significant, nearly 10-point gap in turnout between Black and White voters.
14. With respect to the turnout analysis I conducted using the Mississippi Voter File with race information supplied via the Bayesian Improved Surname Geocoding (BISG) technique, Dr. Brunell's key critique is found on pages 4 and 5 of his report. Dr. Brunell points out that the analysis was limited to a large subset of voters, approximately 930,000, rather than encompassing the entire voter file. However, he fails to provide any substantial reasoning to suggest that this subset of voters is not representative of the broader population.
15. In my initial report, the analysis was indeed confined to about 930,000 records from the database. This limitation was due to a coding error, which inadvertently excluded certain voters in a largely random manner.<sup>8</sup> However, this issue was rectified in my Second Amended Report. With that correction, the analysis now accounts for approximately 98% of the 1,313,759 votes cast in the 2020 election. Importantly, the revised data demonstrate that the estimates of Black and White voter turnout remain very close to the initial findings (less than 1% variation statewide). This consistency reinforces the representativeness of the initial subset of voters.
16. Additionally, it is crucial to note that the updated analysis, along with other studies based on verified turnout data, continues to indicate a significant turnout gap of 10-15 percentage points between Black and White voters in Mississippi. This disparity is not only evident in the 2020 election but is also observable in previous elections, as shown by the data in the State's voter file. This persistent gap across different electoral cycles underscores the systemic nature of the turnout disparities between Black and White voters in Mississippi.

<sup>8</sup> The bug read in the registration dates using an incorrect format: "day-month-year" instead of "month-day-year". Due to this bug, the code dropped records of voters who registered after the 12<sup>th</sup> day of any month, and also dropped records of voters who registered after March 10, 2020 (rather than after Oct. 3, 2020, 30 days before the 2020 election).

Executed on November 22, 2023.

  
Dr. Byron D'Andra Orey, Ph.D.